

NORMAL
mRNA

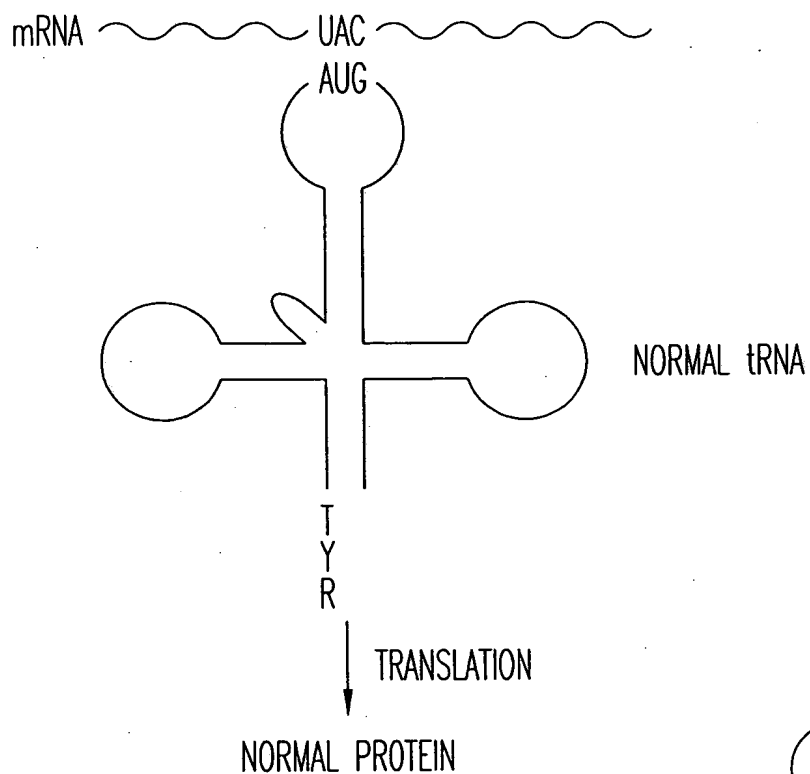


Fig. 1A

MUTANT mRNA
WITH NONSENSE
OCHRE MUTATION

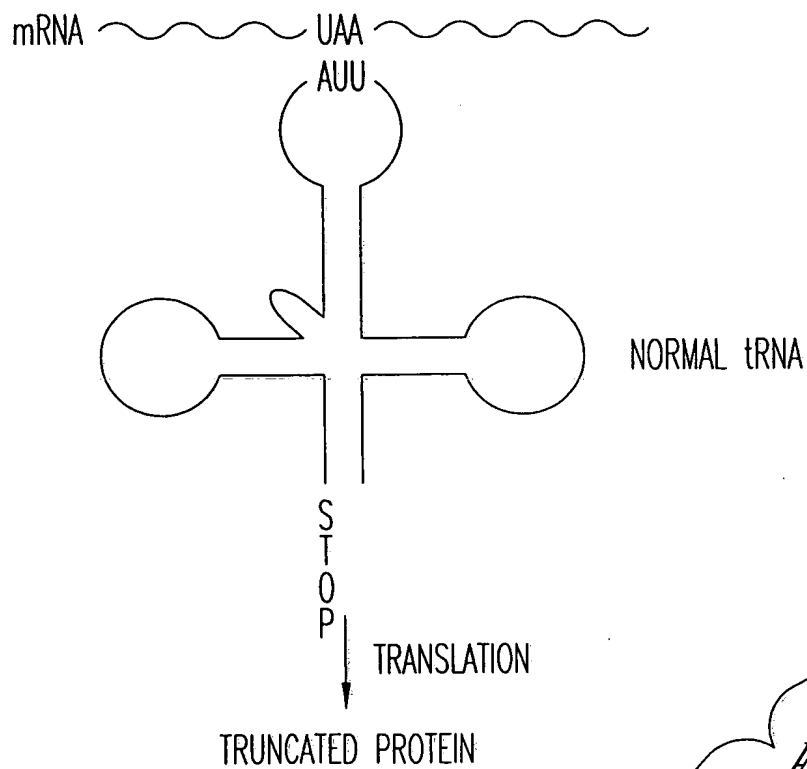
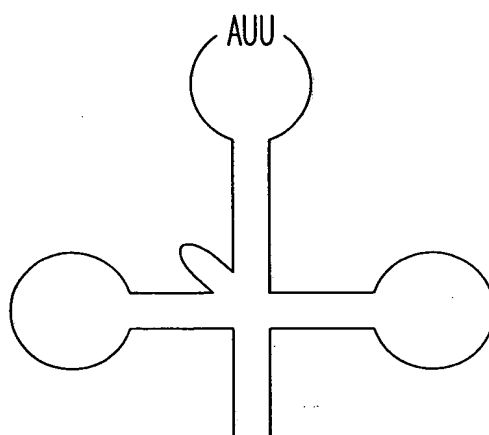


Fig. 1B

MUTANT mRNA
WITH NONSENSE
OCHRE MUTATION

mRNA ~~~~~ UAA ~~~~~



OCHRE SUPPRESSOR
TYROSINE tRNA

T
Y
R

TRANSLATION

NORMAL PROTEIN

Fig. 1C

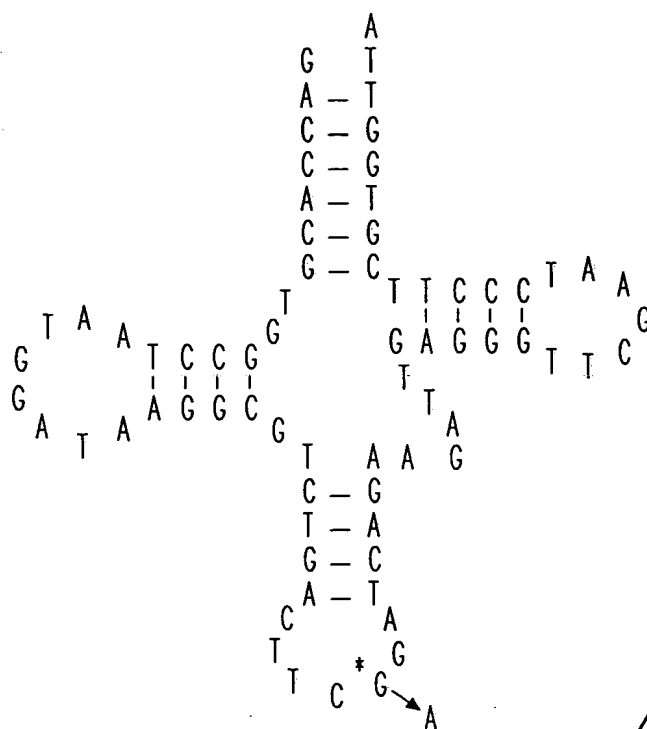


Fig. 2A

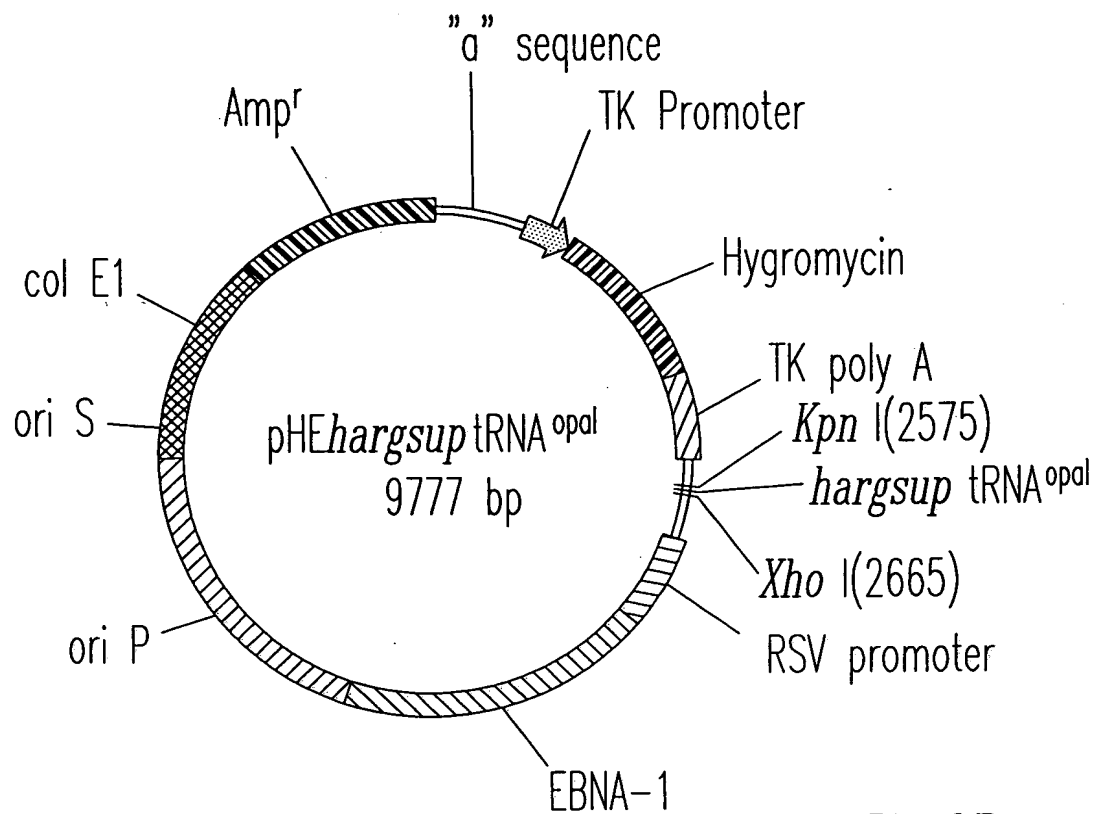


Fig. 2B

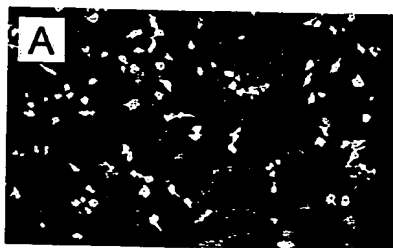


Fig. 3A

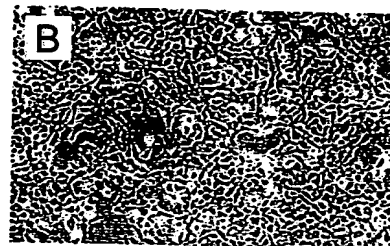


Fig. 3B

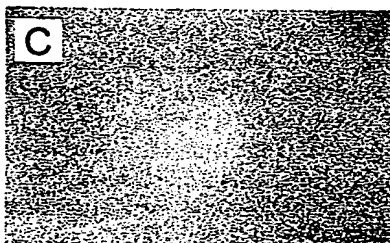


Fig. 3C

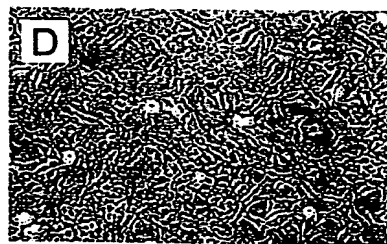


Fig. 3D

A.

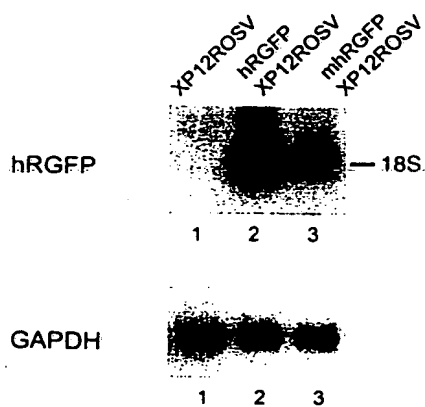


Fig. 4A

B.

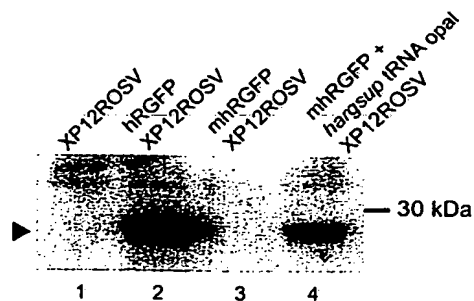


Fig. 4B

XP12ROSV

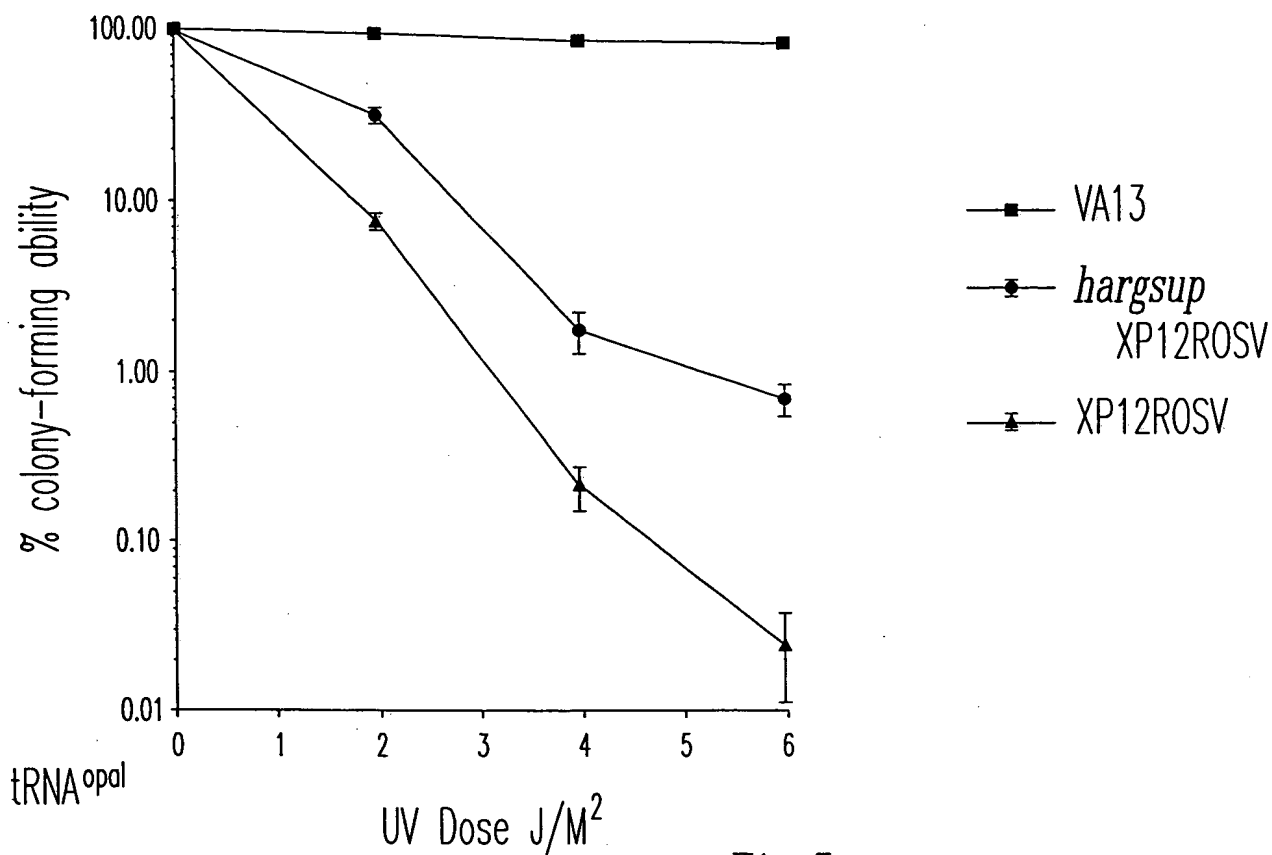


Fig. 5

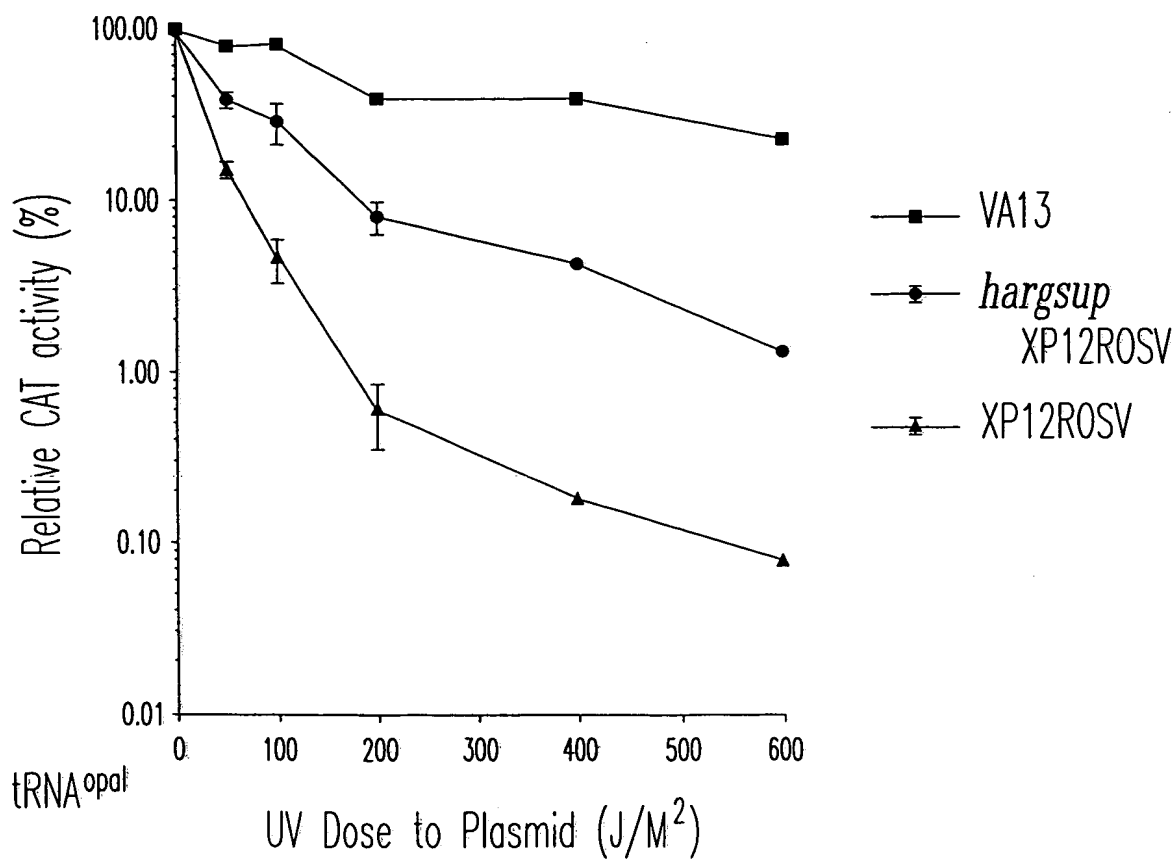


Fig. 6

A

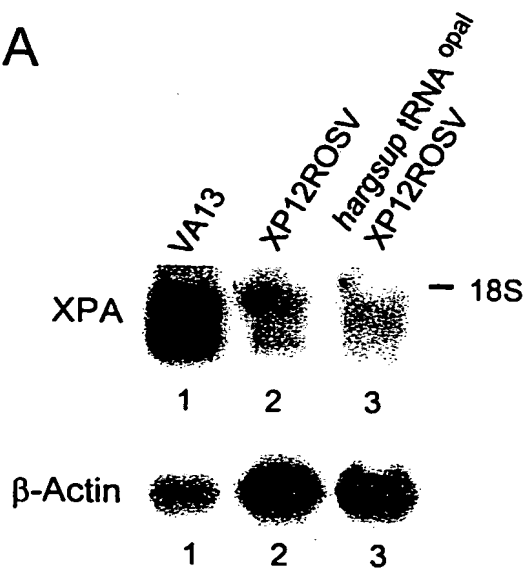


Fig. 7A

B

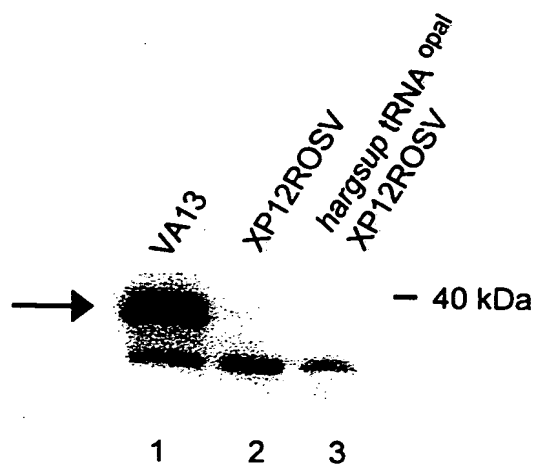


Fig. 7B

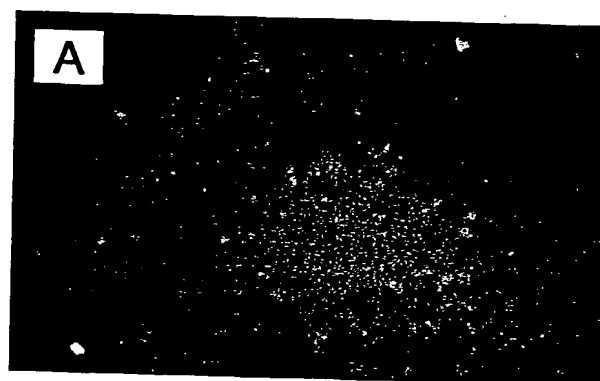


Fig. 8A

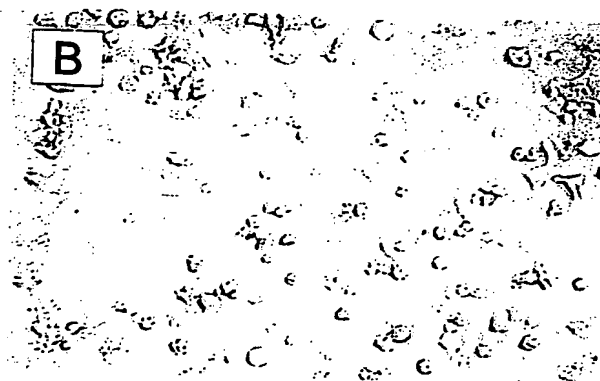


Fig. 8B

Human Opal/Amber Suppressor Ser tRNA (del CCA at the 3' end)

Human opal suppressor serine tRNA (using oligos Rgp 24/25)

Human amber suppressor serine tRNA (using oligos RgP 18/4)

Human ochre suppressor serine tRNA (using oligos RgP 73/74)

[illegible]

Opal Serine

Fig. 9

Human Opal/Amber Suppressor Ser tRNA (del CCA at the 3' end)

pHE 850

Human opal suppressor serine tRNA (using oligos RgP24/25)

5' gcgcggtaccagtaaaaaaagcagccgtagtcggcaggattcgaaacctgcggggagaccccaatggatttgaagtccatcgcccttaaccactcgggccaggactaccagctggcgc
 3' cgcgcgcatgggtcatttttttcgtcgggcatcagccgctcctaagcttggacgccccctctctggggttacctaaacttcagggtagcgggaattggtagcccggtgctgatggtcgcacgcgc
 Kpn I Pvu II

Human amber suppressor serine tRNA (using oligos 18/4)

5' gcgcctccagagtaaaaaaagcagccgtagtcggcaggattcgaaacctgcggggagaccccaatggatttagagtccatcgcccttaaccactcgggccaggactaccgtaccgcgc
 3' cgcgcgacctctcatttttttcgtcgggcatcagccgctcctaagcttggacgccccctctctggggttacctaaaatctcaggtagcgggaattggtgagccgggtgctgatgccatgggcgcgc
 Xho I Kpn I



Amber Serine Opal Serine

Fig. 10

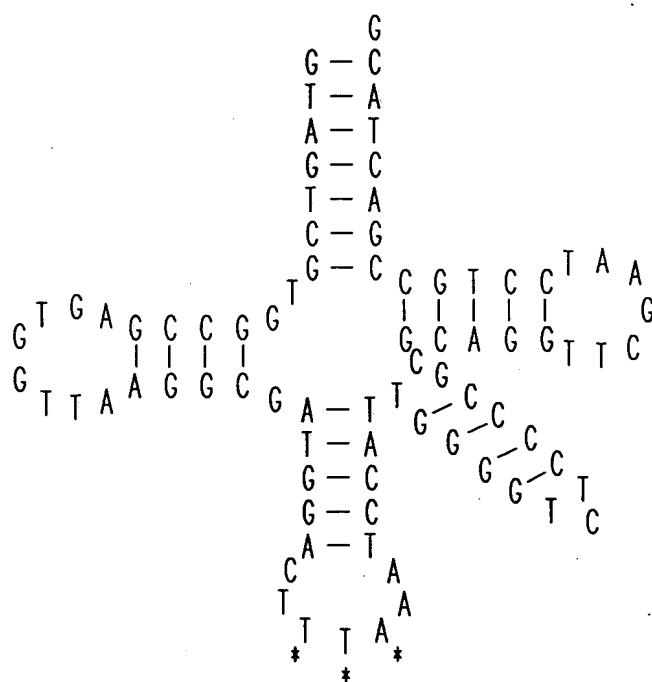


Fig. 11

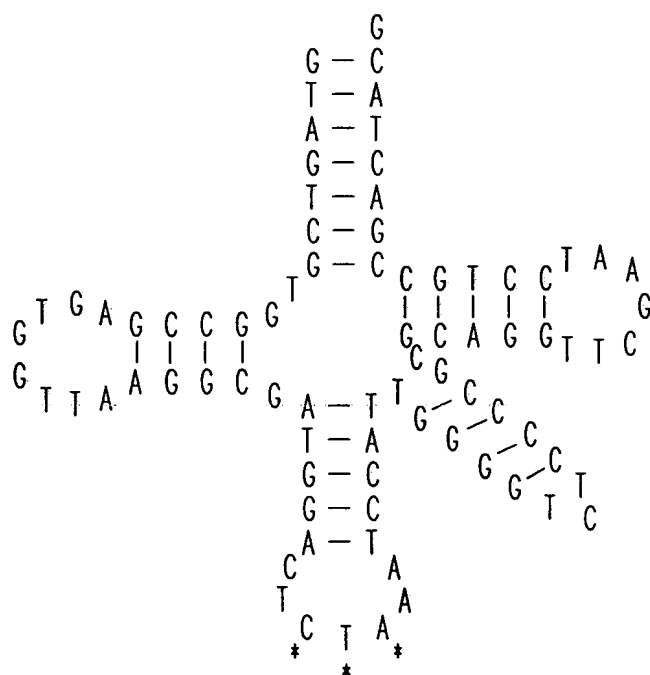


Fig. 12

The diagram illustrates a branching structure of nucleotides, represented by the letters A, T, C, and G. The structure is organized as follows:

- Top Section:** A vertical column of bases: G, T, A, G, T, C, G. To the right of this column is another vertical column: G, A, T, C, A, G, C.
- Branching Structure:**
 - From the 4th base (G) of the left column, a branch goes to the right: G, T, G, A, G, C, C, G, C.
 - From the 5th base (T) of the left column, a branch goes to the right: C, G, T, C, C, T, A, A, G.
 - From the 6th base (C) of the left column, a branch goes to the right: G, C, G, T, C, G, T, T, C.
 - From the 7th base (G) of the left column, a branch goes to the right: A, T, G, C, G, A, T, A, A.
- Bottom Section:**
 - From the 8th base (A) of the left column, a branch goes to the right: T, G, C, G, C, T, C.
 - From the 9th base (T) of the left column, a branch goes to the right: G, G, C, G, C, T, C.
 - From the 10th base (G) of the left column, a branch goes to the right: G, G, C, G, C, T, C.
 - From the 11th base (A) of the left column, a branch goes to the right: T, G, C, G, C, T, C.
 - From the 12th base (T) of the left column, a branch goes to the right: G, G, C, G, C, T, C.
 - From the 13th base (A) of the left column, a branch goes to the right: T, G, C, G, C, T, C.
 - From the 14th base (A) of the left column, a branch goes to the right: T, G, C, G, C, T, C.
- Bottom Markers:** At the bottom, there are three asterisks (*) marking specific points in the sequence: one under the 14th base (A), one under the 15th base (T), and one under the 16th base (A).

G T A A T C C G G T T A A G
 G A T A A G G C G T C T T C
 A — T
 C — G
 C — G
 A — T
 C — G
 G — C
 T T C C T A A
 G T G T A G T T C
 T — A
 C — G
 T — A
 G — C
 A — T
 C A G
 T T C A
 * * *

Fig. 14